

On-orbit Autonomous Assembly from Nanosatellites (OAAN)

Completed Technology Project (2015 - 2016)



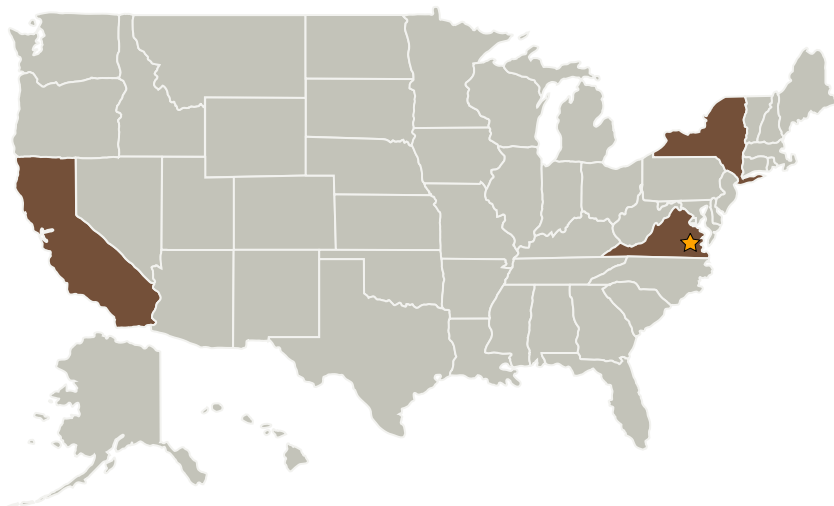
Project Introduction

On-orbit Autonomous Assembly from Nanosatellites (OAAN) demonstrates the technology to autonomously dock two or more nanosatellites to form an integrated satellite system. OAAN offers a flexible and modular alternative to current satellite design and enables the construction of large structures on-orbit from nanosatellite scale subsystems.

Anticipated Benefits

Autonomous rendezvous and docking is applicable to a wide range of NASA missions and objectives, including in-space satellite servicing and orbital debris removal. Currently, there are no proven systems for docking small-scale spacecraft.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Langley Research Center (LaRC)	Lead Organization	NASA Center	Hampton, Virginia
Cornell University	Supporting Organization	Academia	Ithaca, New York



Early Artist's Concept

Table of Contents

Project Introduction	1
Anticipated Benefits	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Images	2
Project Website:	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	2
Target Destination	2

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Center Innovation Fund

On-orbit Autonomous Assembly from Nanosatellites (OAAN)

Completed Technology Project (2015 - 2016)



Primary U.S. Work Locations

California

New York

Virginia

Images



Project Image

Early Artist's Concept
(<https://techport.nasa.gov/image/35782>)

Project Website:

<https://www.nasa.gov/directorates/spacetech/home/index.html>

Project Management

Program Director:

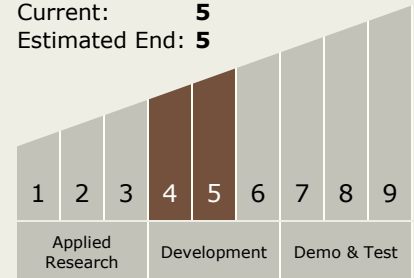
Michael R Lapointe

Project Manager:

Luke S Murchison

Technology Maturity (TRL)

Start: 4
Current: 5
Estimated End: 5



Technology Areas

Primary:

- TX07 Exploration Destination Systems
 - TX07.2 Mission Infrastructure, Sustainability, and Supportability
 - TX07.2.4 Micro-Gravity Construction and Assembly

Target Destination

Earth